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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/844,336	04/18/1997	PAMELA R. CONTAG	8678-004-999	7227

7590 05/04/2004  
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EXAMINER

ZEMAN, ROBERT A

ART UNIT	PAPER NUMBER
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1645

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

08/844,336

Applicant(s)

CONTAG ET AL.01

Examiner

Robert A. Zeman

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 29 December 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
  - (b) ☐ they raise the issue of new matter (see Note below);
  - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_.

3. ☒ Applicant's reply has overcome the following rejection(s): see attached.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: 24-26.Claim(s) rejected: 1-8, 21-23 and 27.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.
10. ☐ Other: \_\_\_\_\_

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***ADVISORY ACTION***

The amendment filed on 12-29-2003 is acknowledged. Claim 22 has been amended.

Claims 10-20 have been canceled.

***Terminal Disclaimer***

The terminal disclaimer filed on 12-29-2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 6,638,752 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Claim Rejections Withdrawn***

The rejection of claims 1-9 and 21-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 and 16-17 of U.S. Patent No. 6,638,752 is withdrawn in light of the Terminal Disclaimer filed on 12-29-2003.

The rejection of claim 22 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in light of the amendment thereto.

***Claim Rejections Maintained***

***35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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The rejection of claims 1-9, 22-23 and 27 under 35 U.S.C. 102(b) as being anticipated by Karube et al. in light of Sleight et al. is maintained for reasons of record.

**Applicant argues:**

1. The examiner has acknowledged that the reference of Karube et al. does not teach all the elements of the claim.
2. To anticipate a claim, a single source must contain of the elements of the claim.
3. The examiner uses the teachings of Sleight et al. to make up for the deficiencies of Karube et al.
4. The examiner's conclusions are improperly based on incorrect interpretations of the claimed invention and what the references actually teach. The evidence of record contradicts said conclusions.
5. The claimed invention is not directed to biodetectors of any and all configuration. The claims are drawn to biodetectors in which a ligand must specifically bind to an extracellular moiety that in turn activates the intracellular moiety of the signal-converting element.
6. Karube does not disclose or suggest biodetectors that function via signal transduction pathways.
7. Heavy metals and toxins bind non-specifically to the surface of a host and are transported into the cell.

Applicant's arguments have been fully considered and deemed non-persuasive.

As stated previously, Sleight et al. was not used as a secondary reference but was used to illustrate that every element of the claimed invention is disclosed by Karube et al. (i.e. Sleight et al. was used to illustrate the state of the art). Karube et al. teach biosensor cells used for the

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detection and analysis of specific substrates. Said biosensors comprise a microorganism-sensing element that recognizes specific substrates and a transducer to convert the biochemical produced into an electronic signal (see page 54, first column). Karube et al. further teach that said transducer can be a photodetector, potentiometric electrodes, amperometric electrodes (see page 54, second column) and that said reaction can be made visible (via luminescence) by fusion of the luxAB gene to the fixAb gene (see page 56, column 1). Sleight et al. teaches the processes and components involved in signal transduction and illustrates that biodetector disclosed by Karube et al. inherently possess the properties not explicitly disclosed since the processes utilized by said biodetectors are the same as those of the instant invention. With regard to Applicant's assertion that the biodetectors disclosed by Karube differ from those of the instant invention since all heavy metals and toxins bind non-specifically, not all toxins are internalized via ion-channels and other non-specific entry mechanisms. For example, the R domain of diphtheria toxin specifically binds to a heparin-binding epidermal growth factor precursor (proHb-EGF) on the surface of certain cells. Moreover, it should be noted that the instant claims do not preclude the internalization of the "ligand". Therefore, in absence of evidence to the contrary, Karube et al. anticipates all the limitations of the instant invention.

### ***Conclusion***

**No claim is allowed.**

Claims 24-26 are objected to as being dependent on rejected claims.

Claims 24-26 are free of the art of record.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Zeman whose telephone number is (571) 272-0866. The examiner can normally be reached on Monday- Thursday, 7am -5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on (571) 272-0864. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert A. Zeman  
March 1, 2004

*L. F. S.*  
**LYNETTE R. F. SMITH**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER**